

### **REMARKS/ARGUMENTS**

Claims 12-42 are currently pending in this application. Claims 12, 15, 28, 38-39 have been amended and claims 25-27 have been cancelled. Reconsideration is respectfully requested in light of the foregoing amendments and the following remarks.

#### **Specification**

The substitute specification has not been entered because it did not conform to 37 CFR 1.125(b) and (c) because of the following:

(a) The substitute specification contained an improper incorporation by reference. In order for the substitute specification to be entered, Applicants have amended paragraph [0001] of the substitute specification as set forth above.

(b) The reference to "lower-density or material deficient" transitional zone in paragraphs [0006] and [0014] of the substitute specification allegedly contains new matter, since according to the Office Action this reference does not correspond to previously described "low material" transitional zones (which was noted in a previous Office Action as confusing). Applicants respectfully submit that the term "lower-density or material deficient" zones is used to alleviate the confusion related to the "low material" term. Applicants respectfully submit that the present confusion is a symptom of the deficiencies of translations from German to English. Applicants respectfully submit that the term "lower-density or material-deficient" zones is a better term that in English more properly describes the transitional zones that were originally simply translated into "low material" transitional zones. Applicants do not in any way intend to introduce new matter; Applicants only desire to clarify the term that was confusing with one that more appropriately describes the transitional zones. Applicants are willing to revert back to describing the transitional zones as "low material" transitional zones in the claims and the specification.

#### **Abstract**

The abstract filed July 21, 2006 was objected to because the newly filed abstract's reference to the "material deficient zone" allegedly contains new matter as discussed above.

Applicants respectfully submit that the reference to the "material deficient zone" is not new matter for reasons set forth above. Applicants are willing to revert back to describing the transitional zones as "low material" transitional zones in the abstract.

**The disclosure** has been objected to because of certain informalities. Applicants previously submitted a substitute specification to provide the appropriate correction, which substitute specification has not been entered as noted above. Applicants respectfully submit that by: entering the substitute specification; by amending paragraph [0001] of the substitute specification as set forth above; and by considering the arguments above in connection with the transitional zones, no objections to the disclosure will remain.

**Claim Objections**

Claims 38 and 39 have been amended as set forth above to remove the optional terminology.

**Claim Rejections**

Claims 12-42 have been rejected under 35 U.S.C. 112, first paragraph for allegedly failing to comply with the written description requirement, as discussed below.

1) powder conveying rate: The Office Action alleges that the disclosure as originally filed only taught a powder conveying rate of 5-60 g/min and gave no indication in the disclosure to control the powder conveying rate outside of this range. Applicants respectfully submit that the original disclosure does teach a powder conveying rate of 5-60 g/min and also on page 7, lines 7-22 teaches that a powder conveying rate should be maintained sufficiently low enough to form an anisotropically structured coating having anisotropic columnar microstructures aligned perpendicular to the substrate surface having the claimed transitional zones in which material-deficient zones bound the columnar particles at their sides. However, in order to further the prosecution of the presently pending claims, Applicants have amended claim 12 as set forth above.

2) process pressure: The Office Action alleges that the disclosure as originally filed taught the pressure must be maintained below 10,000 Pa and gave no indication in the disclosure to control the pressure outside of this range. Applicants respectfully submit that the original disclosure does teach that process pressure is to be maintained below 10,000 Pa and also

on page 7, lines 22-24 teaches that a process pressure should be maintained sufficiently low enough to form an anisotropically structured coating having anisotropic columnar microstructures. However, in order to further the prosecution of the presently pending claims, Applicants have amended claim 12 as set forth above.

3) gas flow rate: The Office Action alleges that the disclosure as originally filed taught a gas flow rate of 30-150 SLPM and gave no indication in the disclosure to control the flow rate outside of this range. Applicants respectfully submit that the original disclosure does teach that gas flow rate is to be maintained in the 30-150 SLPM range and also on page 7, lines 22-24 teaches that the gas flow rate should be maintained sufficiently low enough to form an anisotropically structured coating having anisotropic columnar microstructures. However, in order to further the prosecution of the presently pending claims, Applicants have amended claim 12 as set forth above.

4) material-deficient zones: Applicants respectfully submit that the reference to the "material deficient zone" is not new matter for reasons set forth above. Applicants are willing to revert back to describing the transitional zones as "low material" transitional zones.

5) evaporating "approximately 5-30%" of the powder coating materials: The Office Action alleges that the originally filed disclosure indicated that "at least 5% by weight" was evaporated and not "approximately 5%" and that units (wt%) are not provided as to the amount. Applicants respectfully submit that the original disclosure on page 5, lines 15-20 does teach that "a substantial portion - amounting to at least 5% by weight" of the coating material changes into vapor, and that non-vaporized portion can amount up to 70%. Applicants respectfully submit that a person of ordinary skill can infer that when the non-vaporized portion can amount up to 70% then roughly more than 30% by weight can vaporize. However, in order to further the prosecution of the presently pending claims, Applicants have amended claim 12 as set forth above.

**Claim 15:** The claimed coating thickness range of greater than 100 microns has been alleged to be new matter. Applicants respectfully disagree for the following reasons. The original disclosure on page 6, lines 12-13 states that : "[t]he total coating thickness has values between 20 and 1000  $\mu\text{m}$ , preferably values of at least 100  $\mu\text{m}$ ." Furthermore, the same range is

described by original claim 2. However, in order to further the prosecution of the presently pending claims, Applicants have amended claim 15 as set forth above.

**Claims 27-28:** The term "laser scanning" has been amended to "laser scattering" to cure the new matter rejection of claims 27-28.

**Claim 12: 35 U.S.C. 112, second paragraph:** The range "5-30%" has been amended to "at least 5% by weight" to overcome the section 112, second paragraph rejection.

**Double Patenting**

Claims 12-42 were provisionally rejected on the grounds of nonstatutory obviousness type double patenting as allegedly being obvious over claims 1, 2, 4, 5, 9 and 12 of copending Application No. 10/835,358 in view of United States Patent No. 5,853,815 to Muehlberger. Applicants acknowledge that a timely filed terminal disclaimer may be used to overcome the provisional rejection. Applicants are prepared to do so should the need arise when one or the other of the applications has allowed claims.

**Claim Rejections - 35 U.S.C. 102 and 103**

The pending claims were rejected over the cited references. In order to further the prosecution of the presently pending claims, independent claim 12 has been amended as set forth above. Applicants respectfully submit that neither the '200 reference nor a hypothetical combination of the '200 and Zheng references disclose or suggest every element of amended independent claim 12. The dependent claims are directed to specific features of the present invention which are patentable in their own right. These claims are further allowable because they depend from allowable patent claims.

**CONCLUSION**

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

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Amdt. dated February 28, 2007  
Reply to Office Action of August 29, 2006

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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